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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/853,367	05/11/2001	Francis Michon	1758-4050	5710

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EXAMINER
DEVI, SARVAMANGALA J N

ART UNIT	PAPER NUMBER
1645	6

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.	Applicant(s)
09/853,367	Michon et al.
Examiner	**Art Unit**
S. Devi, Ph.D.	1645

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *three* MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☒ Responsive to communication(s) filed on *May 15, 2002* .

2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) *1-33* is/are pending in the application.

4a) Of the above, claim(s) *19-28 and 30-33* is/are withdrawn from consideration.

5) ☐ Claim(s) _____ is/are allowed.

6) ☒ Claim(s) *1-18 and 29* is/are rejected.

7) ☐ Claim(s) _____ is/are objected to.

8) ☐ Claims _____ are subject to restriction and/or election requirement.

Application Papers

9) ☐ The specification is objected to by the Examiner.

10) ☐ The drawing(s) filed on _____ is/are a) ☐ accepted or b) ☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13) ☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a) ☐ All b) ☐ Some* c) ☐ None of:

1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____ .
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

*See the attached detailed Office action for a list of the certified copies not received.

14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

a) ☐ The translation of the foreign language provisional application has been received.

15) ☒ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s). _____
4) ☐ Interview Summary (PTO-413) Paper No(s). _____
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other:

DETAILED ACTION

Election

1) Acknowledgment is made of Applicants' election filed 05/15/02 (paper no. 5), with traverse, of invention I, claims 1-18 and 29, in response to the restriction requirement mailed 04/16/02 (paper no. 4). The Applicants' traversal is on the grounds that the method of invention II does not state that the conjugates of invention I can only be produced by processes that involve reductive amination. Applicants acknowledge that the process of reductive amination is recited in claim 20, i.e., a claim placed in invention II. Applicants assert that the hyaluronic acid conjugate of invention I and the antibodies of invention III are related, and that a search of these two groups does not seem to be overly burdensome. Applicants further state that inventions IV and V should not be restricted, because the method of invention IV relates to a specific conjugate comprising isolated HA. Applicants contend that the Office's suggestion that invention V relates to methods of protecting against infection using bacteria themselves is improper, as such a method is not based on Applicants' claims which relate to the use of HA-protein conjugates. Applicants cite case law and state that if product claims are found to be new and non-obvious, then the process of using the product are also new and nonobvious.

Applicants' arguments have been carefully considered, but are non-persuasive. As clearly set forth in the restriction requirement mailed 04/16/02, inventions I and III are drawn to two structurally, functionally and biologically distinct products: a hyaluronic acid conjugate belonging to class 424 and an antibody belonging to class 530. Inventions II, IV and V are drawn to three distinct methods, which differ in method steps and parameters, the composition or reagent used and ultimate goals accomplished. Invention I is related to inventions IV and V as product and processes of using the product. M.P.E.P 806.05(h) permits separation/restriction of a product from a method of using the product, if either **or** both of the following can be shown: (1) the process of using the product as claimed can be practiced with another materially different product or (2) the product as claimed can be used in a materially different process of using that product. In the instant case, the conjugate of invention I can be used in a materially different process, for example, as a source of coating hyaluronate antigen in an *in vitro* diagnostic assay. Similarly, M.P.E.P 806.05(f) permits separation/restriction of a product from a method of

making the product, if either or both of the following can be shown: (1) that the process as claimed can be used to make other and materially different product or (2) that the product as claimed can be made by another and materially different process (MPEP). In the instant case, the hyaluronic acid covalently bound to a polypeptide of invention I can be made by a process materially different from the process of invention II using a process that does not involve reductive amination, for example, carbodiimide coupling, or by a non-chemical process, such as, genetic or transgenic process, like the one described in US patent 5,892,070. Contrary to the Applicants' assertion and as documented below via art rejections, the elected product claims are currently not found to be new and non-obvious, and therefore, the process of using the product is also not new and nonobvious. Clearly, a search performed for a conjugate would not be co-extensive to an antibody. Additionally, a search performed for a conjugate product does not necessarily uncover prior art on methods of making or using the product. For these reasons, the restriction requirement set forth in the Office Action mailed 04/16/02 is proper and is hereby made FINAL.

Status of Claims

2) Claims 1-33 are pending.

Claims 19-28 and 30-33 have been withdrawn from consideration as being directed to a non-elected invention. See 37 C.F.R 1.142(b) and M.P.E.P § 821.03.

Claims 1-18 and 29 have been elected via the election filed 05/15/02 (paper no. 5) and are under examination. A First Action on the Merits is issued for these claims.

Drawings

3) The drawings submitted in the instant application are not objected to by the Draftsperson under 37 C.F.R 1.84 or 1.152 and as such, the drawings have been approved as formal drawings.

Specification - Informalities

4) The specification is objected to for the following reason(s):

(a) The use of the trademarks in the instant specification has been noted in this application. For example, see page 23, line 1: "Mono-Q HR"; page 23, line 7: "Sephadex G-10"; page 21, line 9: "Zwittergent"; and page 18, line 19: "MiniDawn". The recitation(s) should be

capitalized wherever it appears and be accompanied by the generic terminology. Each letter of the trademark must be capitalized. See M.P.E.P 608.01(V) and Appendix l. Although the use of trademarks is permissible in patent applications, the propriety nature of the marks should be respected and every effort made to prevent their use in any manner which might adversely affect their validity as trademarks. It is suggested that Applicants examine the whole specification to make similar corrections to the trademarks, wherever such recitations appear.

(b) The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter. See 37 C.F.R 1.75(d)(1) and M.P.E.P § 608.01(o). Correction of the following is required: The recitation "immunologically-suitable" polypeptide carrier in claim 1 does not appear to have antecedent basis in the specification, as originally filed.

Rejection(s) under 35 U.S.C § 112, Second Paragraph

5) Claims 2-18 and 29 are rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicants regard as the invention.

(a) Claim 2 lacks proper antecedent basis for the recitation "**the** hyaluronic acid molecules" (see line 2) [Emphasis added]. Claim 2 depends from claim 1, which does not recite any "hyaluronic acid molecules".

(b) Claim 4 is confusing and/or redundant in the recitation "at least 90% or greater". The recitation "at least 90%" already conveys that the percent could be greater than 90. It is suggested that Applicants delete the recitation "or greater".

(c) Claim 5 is confusing and/or redundant in the recitation "at least 95% or greater". The recitation "at least 95%" already conveys that the percent could be greater than 95. It is suggested that Applicants delete the recitation "or greater".

(d) Claim 6 is confusing and/or redundant in the recitation "at least 98% or greater". The recitation "at least 98%" already conveys that the percent could be greater than 98. It is suggested that Applicants delete the recitation "or greater".

(e) Claim 7 is confusing and/or redundant in the recitation "at least 99% or greater". The recitation "at least 99%" already conveys that the percent could be greater than 99. It is suggested that Applicants delete the recitation "or greater".

(f) Claims 4-7 lack proper antecedent basis for the recitation "**the** low molecular weight hyaluronic acid fragments" (see lines 1 and 2) [Emphasis added]. Claims 4-7 depend from claim 3, which does not recite any hyaluronic acid "fragments".

(g) Claim 8 is vague and indefinite in the recitation "about at least about". It is unclear what is encompassed in this limitation.

(h) Claim 11 is vague and indefinite in the recitation "immunogenic polypeptide derived from streptococci, ...derived from influenza, ... derived from meningococci, ... derived from pneumococci, ... derived from *E. coli*", because it is unclear what is encompassed in the process of 'deriving'. It is further not clear whether the immunogenic polypeptide is the homologous polypeptide isolated from the recited microorganisms, such as, streptococci, influenza, meningococci, pneumococci or *E. coli*, or a heterologous immunogenic polypeptide expressed via the recited microorganisms. Clarification/correction is requested.

(i) Claim 13 is indefinite in the recitation "conjugate is directly linked", because it is unclear what is the 'conjugate' linked to.

(j) Claim 16 is grammatically incorrect in the recitation "bacteria is". The rejection can be obviated by changing the recitation to --bacterium is--.

(k) The term "effective" in claim 29 is a relative term which renders the claim indefinite. The term "effective" is not specifically defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably appraised of the scope of the claim.

(l) Claims 3-18 and 29, which depend directly or indirectly from claim 2, are also rejected as being indefinite because of the indefiniteness or vagueness identified above in the base claim(s).

Rejection(s) under 35 U.S.C. § 102

6) The following is a quotation of the appropriate paragraphs of 35 U.S.C. § 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless --
> **(b)** the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7) Claim 1 is rejected under 35 U.S.C. § 102(b) as being anticipated by Simon *et al.* (WO 00/12122, published 03/09/00 - original and English translation), or Pierschbacher *et al.* (US 5,955,578), or Rhee *et al.* (US 5,510,418).

The page numbers indicated below refer to the page numbers in the translated document. The term 'immunologically-suitable' is interpreted as antigenically suitable.

Simon *et al.* disclose low molecular weight hyaluronic acid (HA) fragments coupled to an antigen (i.e., inclusive of an antigenically- or immunologically-suitable polypeptide), peptide, adjuvant or a carrier, and their advantageous use as vaccines (see abstract; page 3; pages 25 and 26; and claims 25-29 and 31-33). Suitable antigens used are virus antigens; tyrosinase (i.e., an immunologically suitable polypeptide) and GP-33. See page 29.

Pierschbacher *et al.* teach a conjugate composition comprising hyaluronic acid conjugated to an RGD-containing polypeptide (see abstract and claims). The conjugate is contained in sterile PBS (see column 5, lines 56 and 57).

Rhee *et al.* disclose a hyaluronic acid conjugated to cytokines (i.e., immunologically suitable carrier). See abstract.

The Applicants' conjugate is viewed as the same as the prior art conjugate since the latter has all the recited structural elements of the claimed conjugate. The immunogenic function of the conjugate is viewed as an inherent property inseparable from the prior art hyaluronate conjugated to BSA or biotin.

Claim 1 is anticipated by Simon *et al.* or Pierschbacher *et al.* or Rhee *et al.*

8) Claim 1 is rejected under 35 U.S.C. § 102(b) as being anticipated by Fillit *et al.* (*J. Exp. Med.* 164: 762-776, 1986) (Fillit *et al.*, 1986) as evidenced by Nebinger *et al.* (*J. Chromatol.* 320: 351-359, 1985) (Nebinger *et al.*, 1985).

The term 'immunologically-suitable' is interpreted as one that is antigenically or immunogenically suitable as well one that is capable of taking part in an immunological assay.

Fillit *et al.* (1986) teach a conjugate composition comprising intact long-chain hyaluronate conjugated to bovine serum albumin (BSA). A composition comprising testicular hyaluronidase-digested or hydrolyzed group A and C streptococcal hyaluronate oligosaccharide fragments (i.e., low molecular weight hyaluronate) conjugated to biotin (i.e., an immunologically

suitable polypeptide) is also taught. Both conjugates reacted with streptococcal hyaluronate-specific antibodies which recognized an immunodominant epitope containing terminal glucuronic acid residue (see abstract; and pages 763 and 764). The conjugate is present in a carrier such as a buffer (see pages 764, 765 and 768). The Applicants' conjugate is viewed as the same as the prior art conjugate since the latter has all the recited structural elements of the claimed conjugate. The immunogenic function of the conjugate is viewed as an inherent property inseparable from the prior art hyaluronate conjugated to BSA or biotin. That a hyaluronidase-digested hyaluronic acid oligosaccharide contains a terminal non-reducing glucuronic acid is inherent from the teachings of Fillit *et al.* in light of what is known in the art. For instance, Nebinger *et al.* (1985) teach that testicular hyaluronidase cleaves hyaluronic acid to give a homologous series of oligosaccharides with glucuronic acid in a terminal non-reducing position (see page 351). Nebinger *et al.* is **not** used as a secondary reference in combination with Fillit *et al.* (1986), but rather is used to show that every element of the claimed subject matter is disclosed by Fillit *et al.* (1986). See *In re Samour* 197 USPQ 1 (CCPA 1978).

Claim 1 is anticipated by Fillit *et al.* (1986).

Rejection(s) under 35 U.S.C. § 103

9) The following is a quotation of 35 U.S.C. § 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> **(a)** A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person. having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 148 USPQ 459, that are applied for establishing a background for determining obviousness under 35 U.S.C. § 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or unobviousness.

10) Claims 1-10 and 13-18 are rejected under 35 U.S.C. § 103(a) as being unpatentable over

Fillit *et al.* (*J. Exp. Med.* 164: 762-776, 1986) (Fillit *et al.*, 1986) in view of Nebinger *et al.* (*J. Chromatol.* 265: 19-25, 1983) (Nebinger *et al.*, 1983), or Nebinger *et al.* (*J. Chromatol.* 320: 351-359, 1985) (Nebinger *et al.*, 1985), or Shimada *et al.* [*J. Biochem* (*Tokyo*) 96: 721-725, 1984], or Ulrich *et al.* (*Hoppe-Seyler's Z. Physiol. Chem.* 360: 1457-1463, 1979, abstract).

Fillit *et al.* (1986) teach a conjugate composition comprising long chain hyaluronate (HA) conjugated to bovine serum albumin (BSA). Fillit *et al.* (1986) further teach the need to markedly reduce the viscosity of hylauronate and to render it manageable for further manipulation. Fillit *et al.* (1986) teach that enzymatic treatment with testicular hyaluronidase exposes hidden antigenic sites of hyaluronate that contain terminal glucuronic acid (see pages 763 and 762). The hyaluronidase-hydrolyzed hyaluronate oligosaccharides are used for conjugation (see page 763).

Fillit *et al.* (1986) are silent about the molecular weight of the hyaluronic acid present in their conjugate, or of the percent glucuronic acid content of the HA.

However, oligosaccharides of hyaluronic acid of low molecular weight are available in the art and have been routinely produced by those of skill in the art. For example, Nebinger *et al.* (1985) teach odd- and even-numbered oligosaccharides of hyaluronic acid of up to decasaccharides containing glucuronic acid at the nonreducing terminus separated by gel permeation chromatography on Sephadex G-25 and ion exchange chromatography (see abstract). That such decasaccharides of hyaluronic acid constitute low molecular weight hyaluronic acid with a molecular weight of less than about 400 kd or less and about 600 daltons or more is implicit from the teachings of Nebinger *et al.* (1985).

Nebinger *et al.* (1983) teach even-numbered and odd-numbered oligosaccharides of hyaluronic acid up to octasaccharides containing glucuronic acid at the nonreducing terminus (see abstract). That such octasaccharides of hyaluronic acid are low molecular weight hyaluronic acid with a molecular weight of less than about 400 kd and about 600 daltons or more is implicit from the teachings of Nebinger *et al.* (1983).

Similarly, Shimada *et al.* teach odd- and even-numbered hyaluronic acid oligosaccharides (therefore, low molecular weight hyaluronic acid) containing glucuronic acid or unsaturated glucuronic acid residues at their non-reducing ends. The oligosaccharides are comprised in a

NaCl-containing solvent system (see abstract).

Similarly, Ulrich *et al.* teach oligosaccharides of hyaluronic acid (therefore, low molecular weight hyaluronic acid), including a tetrasccharide, containing glucuronic acid as non-reducing terminal (see abstract).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to replace the long chain hyaluronate in Fillit's conjugate with Nebinger's (1983 or 1985) decasaccharides or octasaccharides, or Shimada's hyaluronic acid oligosaccharides, or Ulrich's hyaluronic acid tetrasaccharides, to produce the instant invention, with a reasonable expectation of success. One skilled in the art would have been motivated to produce the instant invention for the expected benefit of reducing the viscosity of Fillit's long chain hyaluronic acid so that the product becomes manageable with the hidden antigenic sites of terminal glucuronic acid advantageously exposed as taught by Fillit *et al.*

With regard to the percent content of glucuronic acid, the process of optimizing, or increasing or decreasing the glucuronic acid content to a desired percent in an art-known conjugate is well within the realm of routine experimentation and would have been obvious to a skilled artisan at the time of the instant invention. It has been held legally obvious and within the routine skill in the art to optimize a result-effected variable. In the instant case, the percent content of the glucuronic acid in the conjugate is clearly a result-effected variable, and it would have been obvious to vary or optimize the glucuronic acid content as desired in the prior art conjugate, for example to greater than 50%, 90%, 95%, 98% or 99%, by routine experimentation.

Claims 1-7 and 14-18 are *prima facie* obvious over the prior art of record.

11) Claims 3, 11, 12 and 29 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Fillit *et al.* (*J. Exp. Med.* 164: 762-776, 1986) (Fillit *et al.*, 1986) as modified by Nebinger *et al.* (*J. Chromatol.* 265: 19-25, 1983) (Nebinger *et al.*, 1983), or Nebinger *et al.* (*J. Chromatol.* 320: 351-359, 1985) (Nebinger *et al.*, 1985), or Shimada *et al.* [*J. Biochem* (*Tokyo*) 96: 721-725, 1984], or Ulrich *et al.* (*Hoppe-Seyler's Z. Physiol. Chem.* 360: 1457-1463, 1979) as applied to claims 2 and 1 above, and further in view of Blake *et al.* (US 5,439,808) and Philip *et al.* (US 6,054,127).

The teachings of Fillit *et al.* (1986) as modified by Nebinger *et al.* (1983 or 1985) or

Shimada *et al.* or Ulrich *et al.* are explained above which do not teach neisserial porin or a meningococcal protein as the immunologically suitable polypeptide in the conjugate.

However, the use of a meningococcal protein or porin for producing polysaccharide conjugates is well known in the art. For example, Blake *et al.* teach a class 3 outer membrane protein of *Neisseria meningitidis* (i.e., an immunogenic meningococcal porin) and its use as a carrier protein in polysaccharide conjugate vaccines (see column 4, lines 9-19; column 9, fourth paragraph; and column 10, second paragraph).

Philip *et al.* teach that bovine serum albumin is a less appropriate or less desirable protein carrier for use in human vaccines because of the generation of anti-BSA antibodies that have the potential to cause adverse responses (see column 11, lines 1-7 and 25-27).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to replace bovine serum albumin in the Fillits' (1986) conjugate as modified by Nebinger *et al.* (1983 or 1985) or Shimada *et al.* or Ulrich *et al.* with Blake's meningococcal porin to produce the conjugate of the instant invention, with a reasonable expectation of success. One skilled in the art would have been motivated to produce the instant invention for the expected benefit of avoiding the generation of anti-BSA antibodies in humans that have the potential to cause adverse responses, as taught by Philip *et al.* The resultant conjugate would be expected by those skilled in the art to elicit effective levels of antibodies to low molecular weight hyaluronic acid in humans.

Claims 3, 11, 12 and 29 are *prima facie* obvious over the prior art of record.

Objection(s)

12) Claim 9 is objected to for the following reason:

Claim 9 is grammatically incorrect in the recitation "hyaluronic acid possess" as opposes to --hyaluronic acid possesses--.

Relevant Prior Art

13) The prior art made of record and not relied upon in any of the rejections is considered pertinent to Applicants' disclosure:

Fillit *et al.* (*J. Exp. Med.* 168: 971-982, 1988) teach a streptococcal hyaluronate covalently linked to liposomes to produce an immunogenic conjugate composition that induces

anti-hyaluronate serum antibodies when used in Freund's adjuvant to immunize mice (see abstract).

- Prisell *et al.* (US 5,470,829) teach a pharmaceutical conjugate composition comprising a first component, such as, a protein, a polypeptide or a peptide, and a second polymer component, such as, a hyaluronic acid (see abstract; first paragraph in column 3; lines 40, 41 and 60 in column 4 and lines 54-56 in column 5). Hyaluronic acid conjugated to a receptor binding protein is also taught (see claims 7, 9 and 6). The composition is used for *in vivo* administration (see claims).

- That hyaluronic acid oligosaccharides of hexasaccharide size have a molecular weight of more than 600 daltons and less than 400 kd is known in the art. For instance, Werries *et al.* (*Mol. Biochem. Parasitol.* 7: 127-140, 1983) teach the molecular weight of hyaluronate oligosaccharides of about hexasaccharide size to be 75,000 (see abstract).

Remarks

14) Claims 1-18 and 29 stand rejected.

15) Papers related to this application may be submitted to Group 1600, AU 1645 by facsimile transmission. Papers should be transmitted via the PTO Fax Center located in Crystal Mall 1. The transmission of such papers by facsimile must conform with the notice published in the Official Gazette, 1096 OG 30, November 15, 1989. The CM1 facsimile center's telephone number is (703) 308-4242, which is able to receive transmissions 24 hours a day and 7 days a week. The RightFax number for submission of before-final amendments is (703) 872-9306. The RightFax number for submission of after-final amendments is (703) 872-9307.

16) Any inquiry concerning this communication or earlier communication(s) from the Examiner should be directed to S. Devi, Ph.D., whose telephone number is (703) 308-9347. A message may be left on the Examiner's voice mail service. The Examiner can normally be reached on Monday to Friday from 7.15 a.m to 4.15 p.m. except one day each bi-week which would be disclosed on the Examiner's voice mail system.

If attempts to reach the Examiner by telephone are unsuccessful, the Examiner's supervisor, Lynette Smith, can be reached on (703) 308-3909.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 308-0196.

SD

S. DEVI, PH.D.
PRIMARY EXAMINER
Aug. 02.